

January, 2013
BUILDING DIVISION

VERTICAL STORAGE SYSTEMS

1. Shelving and Racking Without an Elevated Walking Platform Less Than 2.5 Metres (8 ft.) In Height*:
 - (a) A building permit is not required for any racking or vertical storage systems under 2.5 metres (8 ft.) in height. These units are considered to be shelving.
 - (b) The units must be anchored to the manufacture's installation guidelines (involvement of a registered professional may be required).
 - (c) After the installation of the shelving units, the travel distance to the nearest required exit shall comply with the BC Building Code requirements.

2. Shelving and Racking Without an Elevated Walking Platform Greater Than 2.5 Metres (8 ft.) In Height*:
 - (a) A building permit is required.
 - (b) Non-combustible construction is required.
 - (c) These systems shall be seismically restrained according to the requirements of Part 4 of the BC Building Code.
 - (d) A *registered professional* (professional engineer) shall submit sealed drawings and Schedule B for seismic design and field review for seismic restraint, as well as to confirm that the existing concrete slab is capable to take the point loads from the racking posts.
 - (e) The shelving/racking system shall be sprinklered in compliance with NFPA 13 if the building is sprinklered**.

3. Shelving and Racking With an Elevated Walking Platform:
 - (a) A building permit is required.
 - (b) Non-combustible construction is required.
 - (c) The walking platform shall be an open system supported by the racking.
 - (d) The walking platform shall not be more than 1.25 metres (4 ft.) wide.
 - (e) The walking platform shall be used for access to the racking only (Storage on the walkway is not allowed).
 - (f) The walking platform shall be considered as a mezzanine for the purpose of determining the number of exits, travel distances, guards, and stairway design.
 - (g) A *registered professional* (professional engineer) shall submit sealed drawings, and Schedule B for the structural aspects of the project. The design loads shall be indicated on these drawings.

- (h) The floor area of the elevated walking platforms, not including the racks, shall be not more than ten percent (10%) of the floor area of the suite.
- (i) Interconnected smoke alarms (detectors for building with an existing fire alarm system) shall be installed above and below the elevated walking platforms. Smoke draft stops may be required.
- (j) The shelving/racking system shall be sprinklered in compliance with NFPA 13 if the building is sprinklered**.

4. The following condition shall be stated on the permit for any racking system:

"Any change in the commodities stored on the racking system may require a re-evaluation of the design load and the sprinkler system by a registered professional."

Notes:

* Height is measured from the floor to the top of the highest shelf level.

** Prior to the installation of racks, the building sprinkler system should be reviewed by a registered professional to determine if an upgrade to the sprinkler system is required. In many buildings, the sprinkler system has been designed to Ordinary Hazard Group 2 classification, which allows a maximum height of storage to be 3.6 m (12 ft.) for Class III materials (e.g. wood, paper, leather, textiles, with no significant amount of plastics); a maximum height of 3.0 m (10 ft.) for Class IV materials (plastic, paints, etc.) and a maximum height of 1.8 m (6 ft.) for empty wood pallets [NFPA 13, 7-2.3.2.2.].

In an unsprinklered building, a clearance of not less than 1 m (3'-4") between the top of storage and underside of floor or roof deck shall be maintained [BC Fire Code 3.2.2.3.].

In a sprinklered building, the clearance between the top of storage and the ceiling sprinkler deflectors shall comply with NFPA 13 [BC Fire Code 3.2.2.3.].